February 23, 2004

Comments of Energy Resources, Inc.
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To the Honorable Chairman Marc Spitzer, the Honorable Commissioner William Mundell, the Honorable Commissioner Jeff Hatch-Miller, the Honorable Commissioner Mike Gleason, and the Honorable Commissioner Kristin Mayes of the Arizona Corporation Commission:

As common stakeholders in the Environmental Portfolio Standard ("EPS") process, Arizonans share a vision of rising energy independence and ecological health for our state. Energy Resources, Inc. ("ERI"), an Arizona corporation, commends the Arizona Corporation Commission ("Commission") and Staff for significant progress achieved thus far in creating the policy frameworks necessary to support this vision.

The Commission has directed that a series of Workshops be conducted to invite stakeholder input regarding proposed changes to the EPS Rules. As Staff moves forward with this process, ERI urges that the Commission, Staff, and all stakeholders maintain focus on the critical objectives of the EPS. Paramount among them is *the maximum displacement of fossil fuel consumption and related emissions and externalities*. Reflecting that vital goal, ERI respectfully submits the following comments regarding proposed changes to the Environmental Portfolio Standard, A.A.C.R14-2-1618.

1. A Discussion of Increasing Environmental Portfolio Standard ("EPS") Funding Levels

In its June 2003 report, an EPS funding gap was incontrovertibly demonstrated by the Cost Evaluation Working Group ("CEWG"). Since the transmittal of the CEWG report, the Commission and numerous stakeholders have indeed acknowledged that such a gap exists. EPS funding levels must indeed be increased, and funding instruments must be defined in conjunction with establishment of EPS targets. In the absence of an identified, executable strategy for providing the funding that will enable achievement of goals, we risk failure. *ERI recommends that the Commission and Staff examine the best practices of other states, nations, and jurisdictions which have developed successful policies for funding such measures.* Examples include:

- State Production Tax Credits (PTC)
- State-managed Renewables Trust Funds (California)
- Full Cost Rate Policy (Germany)
- State-managed venture funds (New Mexico)
- Use of Severance Tax Permanent Funds (New Mexico)

Arizona must work to leverage other resources and accessible partnerships in order to achieve increased EPS funding. The Commission, in union with potential alliance partners such as the Governor's Office, the Energy Office, NGOs, and/or other relevant state entities should cooperatively combine resources, decision influence, and leadership to encourage regional and national partnerships. Development of the Southwest Region's renewable resources is not a special interest; rather it is in the nation's overall energy-independence interests. Arizona and its regional allies should: *(a)* continue participation in grant programs such as the Department of Energy's ("DOE") State Energy Partnerships; *(b)* seek out federal resources available through other federal agencies with programmatic interests in energy independence; *(c)* support regional efforts undertaken by the Western Governor's Association such as the 1000 MW Initiative; and *(d)* work to ensure that federally appropriated dollars allocated to DOE, the National Labs, and other entities are designed to simultaneously leverage the Agencies' RD&D goals as well as our state's EPS goals by ensuring that Arizona is engaged at the national level and recognized as the logical choice for demonstration projects (as it indeed is).

Moreover, we must maximize the return on funds invested in the EPS. Thus, policy frameworks must be structured to avoid consumption of EPS funds for:

- Long-Term Finance: Costs for renewable resource technologies will decline significantly during the timeframes that will typically comprise capital investment periods for project scales relevant to this discussion. As such, long-term contracts that lock in purchase of technology, hardware, or projects at higher costs should be avoided. Policy should support up-front (pay-as-you-go) investment of EPS funds, in pace with advancing technology and diminishing costs.
- Debt Service: Similarly, use of EPS funds to service debt for long term financing should be avoided.
- Profit Margins: Private entities that provide technology, hardware, and/or turnkey projects must amortize their development costs and realize sufficient margins to sustain their businesses. EPS funds will go farther if "one-off" contracts (those in which development costs are fully amortized over one customer or project) are avoided. Moreover, EPS funds should not be directed toward entities with high-overhead, high-margin business structures. Ideally, EPS funds should be utilized by entities whose charter is to achieve EPS goals rather than to achieve profit.
- Sustained Subsidies: Subsides in the retail sector (buy-downs, rebates, etc.) can indeed energize markets and create economies-of-scale that contribute to cost reductions over time. Cost reductions can occur from increased volume, whereby production costs can be spread over a larger base and per-unit prices can be reduced. Volume-based reductions, however, may wane as subsidy levels change. Alternatively, stimulation via subsidies can increase revenues that may be reinvested in continued technology breakthroughs, thereby achieving permanent cost reductions. Utilization of EPS funds for those market stimulants that rely upon sustained subsidies to achieve tenuous cost reductions must be avoided.

2. Elimination of the EPS Expiration Date.

ERI supports elimination of the EPS expiration date. As other stakeholders to this process have echoed, Arizona must signal its commitment to long-term, sustained movement toward broadened deployment of renewable resources, fossil fuel displacement, and environmental benefit for all Arizonans. Moreover, the uncertainty created by tenuous regulatory frameworks impairs progress in both technology advancement and compliance with EPS targets.

3. Restoration of Demand Side Management ("DSM") Funding.

ERI desires to further examine and consider issues raised on this topic throughout the Workshop process, and offers no opinion at this time.

4. Allocation of Funding Among Various Technologies.

As noted in the introductory remarks of this document, the critical focal point of the EPS must continue to be maximum displacement of fossil fuel consumption and related emissions and externalities. Policy frameworks must allow for utilization of the most efficacious strategies and technologies available; with consideration that:

- The EPS should create incentive, but not regulatory mandate for use of particular technologies to achieve EPS requirements. As solar energy is the most abundant resource within our state, and has great potential to be the region's prominent contributor to both fossil fuel displacement and to job growth/economic development, ERI supports favorable multipliers and/or other policy incentives for the use of solar resources rather than mandates.
- The inclusion of wind, biomass, geothermal, landfill gas, demand-response measures, and other resource options will indeed allow for development of the least cost renewable energy technologies, and at the most rapid pace. Arizona's overall portfolio may be optimized to accelerate those technologies with highest fossil fuel displacement capability, and thus achieve goals considerably greater than the current 1.1% target.

Among solar technologies in particular, emphasis must also be placed on advancement of those with highest promise of achieving least cost (in totality, including externalities) energy in the shortest timeframes. While utilization of our ubiquitous solar resource in a distributed fashion is a laudable goal for Arizona's long term vision, bridging measures are required to meet our near term, and *primary* goal of maximum fossil fuel displacement.

- Whereas discussion in the Rulemaking Process thus far has emphasized policy measures aimed at increasing customer-installed PV systems and the production volumes necessary to achieve acceptable market price points, "simple math" quickly demonstrates that Arizona will not achieve its goals 2kW at a time, rooftop-by-rooftop, in the near term.

- Utility-scale technologies such as Concentrating Solar Power ("CSP") and High Concentration Photovoltaics ("HCPV") have the greatest potential to achieve least-cost energy production on a large scale in the near term and will play an important role in achieving substantial fossil fuel displacement.
- Moreover, penetration of rooftop installations in the consumer market is a slow process. Customer inertia and "behavior inelasticity", above-market price-points, and lacking Measurement & Verification protocols to ensure that rated efficiencies are achieved, all contribute to slow growth. Historically, even technologies having price-points at par with the market, and having clear, "user-friendly" value propositions to consumers require periods on the order of decades to achieve significant market diffusion.[1]
- Thus, to most rapidly achieve EPS goals, we must simultaneously: *(a)* support and enable the development of utility scale technologies such as CSP and HCPV; *(b)* work toward advancement of residential-scale technologies and associated cost reductions, and as importantly; *(c)* work toward consumer education and accelerated proof-of-concept within the marketplace.

5. Whether or Not Arizona Can and Should Increase Its Commitment to Renewable Energy by Increasing the Surcharge and the Portfolio Percentage.

ERI would reiterate the recommendation that the Commission and Staff fully develop an executable strategy for providing the funding that will enable achievement of goals in conjunction with consideration of Portfolio Percentage increases, and further, should examine the best practices of other states, nations, and jurisdictions which have developed successful policies for funding such measures.

6. Review of the Requirements for the Phase-In of Renewable Technologies Found in A.A.C. R14-2-1618 B. 3.; Whether Static Percentages are Still Justified and/or, Should be Reconfigured.

ERI desires to further examine and consider issues raised on this topic throughout the Workshop process, and offers no opinion at this time.

7. Consideration of Inclusion of New And Emerging Technologies.

The success of various technologies will be revealed through forward progress, and thus the process will require not only dynamic evaluation methodologies to assess overall efficacy; it must also allow for consideration of new and emerging technologies. *ERI recommends that a strategic "roadmap", comparable to those used within the technology sector, be adopted to achieve simultaneous optimization of the multiple technology*

[1] NREL and other institutions have conducted research on achievable market penetration for renewables. See for example: *"Forecasting the Growth of Green Power Markets in the United States", Wiser, Bolinger, Holt, Swezey; NREL, October 2001.*

development goals of the EPS. Successful technology companies – particularly those developing emerging technologies, utilize such a roadmap to ensure that *(a)* marketing, engineering, sales, and customer service objectives are achieved harmoniously, and *(b)* a "cradle-to-grave" strategy is executed to assure sustained optimization during the lifetime and retirement of a product. Such a roadmap also addresses the dynamic conditions of the marketplace and changing regulatory, political, social, and economic drivers that affect product deployment. The conditions under which EPS-supported technology developments occur will be equally dynamic, and subject to changing parameters. *The Commission's consideration and ongoing review of the appropriate resource mix for the EPS must indeed include new and emerging technologies.*

ERI respectfully submits these comments for consideration by the Arizona Corporation Commissioners and Staff and offers assistance in providing any further information that will aid the Workshop process.

Respectfully Submitted,

By:

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